肿瘤防治研究 2005, Vol. 32 Issue (1): 18-20 DOI:
基础研究

稳定过表达smac 基因胃癌细胞株的建立及其化疗敏感性研究

郑丽端[1],童强松[2],陶凯雄[2],汪 良[2],张 波[2]

1. 430022 武汉,华中科技大学同济医学院附属协和医院病理科,2. 外科

Establishment of Gastric Cancer Cell Line Stable Over2expressing smac Gene and Its Chemotherapeutic Sensitivity

ZHEN G Li-duan[1] , TONG Qiang-song[2] , TAO Kai-xiong[2] , WANG Liang-,ZHANG Bo[2]

1. Department of Pathology , Union Hospital of Tongji Medical Col lege , Huazhong Universit y of Science and Technology , Wuhan 430022 , China;2. Department of Surgery

- 摘要
- 参考文献
- 相关文章

全文: PDF (402 KB) HTML (0 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 目的 探讨smac 基因过表达对胃癌细胞株化疗敏感性的影响。方法 采用脂质体将smac 基因真核表达载体pcDNA3. 1-smac 及空白载体pcDNA3. 1 转染入胃癌细MKN245 ,G_{418} 筛选获得抗性亚克隆细胞株,RT-PCR 和Western Blot 检测癌细胞smac 基因表达,四甲基偶氮唑盐(MTT) 比色法、克隆形成实验检测丝裂霉素(MMC) 对癌细胞的生长抑制效率。结果 建立分别稳定表达smac 基因、新霉素抗性基因(neo) 的胃癌亚克隆细胞株MKN-45/ smac 、MKN-45/ neo 。RT2PCR 和Western Blot 证实MKN245/ smac 细胞的smac mRNA 及蛋白表达水平均显著高于MKN-45 、MKN-45/ neo (P < 0. 01) 。10μg/ ml MMC 作用24h 后,MKN245 、MKN245/ neo 细胞生长抑制率分别为27. 85 %、28. 12 % , 而MKN-45/ smac 则高达43. 71 %(P < 0. 01) ;同MKN-45 、MKN-45/ neo 细胞株比较,MKN-45/ smac 的克隆形成能力分别降低了14. 07 %(P < 0. 01) 、15. 13 %(P < 0. 01) 。结论 稳定转染smac 基因使其在胃癌细胞株中过表达,能显著提高癌细胞对MMC 的敏感性,为改善胃癌化疗效果奠定了实验基础。

关键词: 胃癌 smac 基因 基因表达 细胞凋亡

Abstract: Objective To explore the effect s on chemotherapeutic sensitivity of gast ric cancer cell line by stable over2expression of smac gene. Methods Under the induction of liposome , the eukaryotic expression vector pcDNA3. 1-smac for smac gene and it s cont rol vector pcDNA3. 1 were t ransfected into gasric cancer cell line MKN-45. The subclone cell lines were obtained by persistent G_{418} selection. smac gene expression of cancer cells were detected by RT-PCR and Western Blot methods. The growth inhibition effect s of mitomycin (MMC) on cancer cells were also observed by tet razolium bromide colorimetry and clone formation test . Results The subclone gast ric cancer cell lines , stable expressing smac and neo gene respectively , were successfully selected , named as MKN-45/ smac and MKN-45/ neo. RT-PCR and Western Blot result s demonst rated smac mRNA and protein levels of MKN-45/ smac cells were significantly higher than those of MKN-45 and MKN-45/ neo (P < 0. 01) . Af ter being t reated with 10 μg/ ml MMC for 24h , the growth inhibition rates of MKN-45 and MKN-45/ neo were 27. 85 % ,28. 12 % respectively , with that of MKN-45/ smac cells being 43. 71 % (P < 0. 01) . When compared with MKN-45 and MKN245/ neo cells , the clone formation abilities of MKN245/ smac were reduced by 14. 07 % (P < 0. 01) , 15. 13 %(P < 0. 01) respectively. Conclusion Stable t ransfection of smac gene and it s over-expression in gastric cancer cell line could significantly improve their chemotherapeutic sensitivities to MMC , which established an experimental basis for ameliorating chemotherapy of gast ric cancer.

Key words: Gast ric cancer smac gene Gene expression Apoptosis

收稿日期: 2004-03-16;

通讯作者: 郑丽端

引用本文:

郑丽端,童强松,陶凯雄等. 稳定过表达smac 基因胃癌细胞株的建立及其化疗敏感性研究[J]. 肿瘤防治研究, 2005, 32(1): 18-20.

ZHEN G Li-duan,TONG Qiang-song,TAO Kai-xiong et al. Establishment of Gastric Cancer Cell Line Stable Over2expressing smac Gene and Its Chemotherapeutic Sensitivity[J]. CHINA RESEARCH ON PREVENTION AND TREATMENT, 2005, 32(1): 18-20.

服务

把本文推荐给朋友
加入我的书架
加入引用管理器
E-mail Alert
RSS

作者相关文章

郑丽端
童强松
陶凯雄
汪 良
张 波

没有本文参考文献

[1] 穆媛媛;吴会超;杨莹莹;苏薇. 胃泌素及其受体拮抗剂对人胃癌细胞株MKN45增殖及HB-EGF表达的影响[J]. 肿瘤防治研究, 2012, 39(2): 133-136.

[2] 刘磊玉;赵彬佳惠;秦玮;陈媛媛;林锋;邹海峰;于晓光 . 转染PDCD5基因促进顺铂诱导前列腺癌细胞的凋亡作用[J]. 肿瘤防治研究, 2012, 39(1): 32-35.

[3] 周防震;张晓元;孙奋勇;郭勇 . 二氢杨梅素对人乳腺癌细胞MDA-MB-231的体外抗增殖作用[J]. 肿瘤防治研究, 2012, 39(1): 95-97.

[4] 汪长林;赵名;于晓妩;马健;张琪 . 2-氯脱氧腺苷(2-CDA)对人黑色素瘤细胞系A375生物学性质的影响[J]. 肿瘤防治研究, 2011, 38(9): 986-990.

[5] 孟爱国;刘春艳 . N-马来酰-L-缬氨酸酯姜黄素诱导胃癌MGC-803细胞凋亡的机制 [J]. 肿瘤防治研究, 2011, 38(9): 995-997.

[6] 谭志军;姜伟;谷川;张建良. 胶滴肿瘤药敏试验检测胃癌细胞化疗敏感度[J]. 肿瘤防治研究, 2011, 38(9): 1074-1075.

[7] 杨凯;贺兼斌;张平 . 白藜芦醇对小鼠Lewis肺癌细胞生长的抑制作用及其机制 [J]. 肿瘤防治研究, 2011, 38(8): 871-874.

[8] 靳福鹏;张梅;李平;张锋利;闫安 . 益气养阴解毒方含药血清对Lewis肺癌细胞增殖及凋亡影响的体外实验[J]. 肿瘤防治研究, 2011, 38(8): 866-870.

[9] 高炳玉;夏立平;刘玉;陈国平;郑武平 . X线照射后对乳腺癌细胞凋亡的影响及CDKN1A表达的变化[J]. 肿瘤防治研究, 2011, 38(8): 891-894.

[10] 周云;黄纯兰;李录克;李晓明 . 威灵仙皂苷对急性早幼粒细胞白血病细胞株NB4细胞的凋亡诱导作用及其机制[J]. 肿瘤防治研究, 2011, 38(8): 881-885.

[11] 王耕;黄韬;薛家鹏;王明华;惠震 . 三羟异黄酮对人乳腺癌MCF-7/ADM细胞体外抑瘤效应、细胞周期及凋亡的影响 [J]. 肿瘤防治研究, 2011, 38(8): 886-890.

[12] 查勇;寸英丽;马春笋;陈真;杨步荣;黄云超 . 胃癌根治术后淋巴结转移率与患者预后的关系[J]. 肿瘤防治研究, 2011, 38(7): 788-790.

[13] 王居峰;张艳玲;刘文静;侯新芳;李克;徐淑宁 . 伊利替康联合顺铂二线治疗晚期胃癌[J]. 肿瘤防治研究, 2011, 38(7): 817-819.

[14] 郑克彬;何心;田伟;焦保华. PTEN在正常脑组织及脑胶质瘤中的表达与细胞凋亡的关系 [J]. 肿瘤防治研究, 2011, 38(7): 827-829.

[15] 马友龙;胡大为;祁海艳;张学诚 . 全内脏反位合并胃癌2例报告并文献复习 [J]. 肿瘤防治研究, 2011, 38(7): 832-833.